"*Silverman*") in view of Hartheimer et al., U.S. Patent No. 5,305,200 (hereinafter "*Hartheimer*").

Applicants respectfully traverse these rejections.

Silverman generally teaches a matching system for trading instruments in a network environment between "buyers and sellers who are willing to trade with one another based on specified criteria ... [and who] may automatically trade when matching events occur satisfying these criteria." (col. 1, lines 5-9). *Silverman* further teaches a matching system that, for a single transaction, may involve multiple matches and multiple counter parties (col. 18, line 35 through col. 19, line 29). According to *Silverman*, update messages are broadcast from a central system to multiple keystations to provide quotes on the best bids or offers in the system. (col. 10, lines 7-26). In response to data quoted in update messages, an operator of a keystation may submit an order that includes a bid, an offer, a hit, or a take. (col. 17, lines 41-51). "After the order has been entered ... a transaction message is built and sent as a directed message to the central system 20." (col. 17, lines 52-56). "At this point, preferably the central system 20 sends back a directed message, termed a command acknowledgement message and given reference numeral 122, to inform keystation 24a that the transaction message120 has been received." (col. 18, lines 1-5). In order to ensure the transaction is completed, *Silverman* teaches the following: time-stamping the transaction message 120 at the central system, displaying "please wait" at the submitting keystation 24a until the transaction message has been acknowledged, and sending follow-up directed messages to keystations involved in a transaction. (col. 18, lines 5-35).

Hartheimer, in contrast, teaches a trading system for negotiating trades between a market maker (quoter) and a potential buyer or seller (requestor). (Abstract). The system disclosed by *Hartheimer* includes workstations that are each connected to a bank node. Each bank node is connected to a city node and each city node is connected to other city nodes. (col. 2, lines 48-58

and Fig. 1). To ensure completion of a transaction, the system of *Hartheimer* relies on log entries located in processors at respective bank nodes involved in the respective transaction. The system of *Hartheimer* discloses that a workstation can initiate a transaction recovery attempt via its corresponding bank processor by reviewing associated log entries. The recovery attempt may occur when the workstation does not receive a response within a predetermined period of time after it logs a transaction as "order in process." An "order in process" designation occurs in response to a workstation placing an order with a market maker. (col. 7, lines 29-37).

Lack of Motivation to Combine References

Taking each as a whole, there is no motivation to combine *Hartheimer* with *Silverman* in order to provide a system that ensures the completion of trading transactions. *Silverman* discloses a system that enables trades between multiple parties that involves various broadcast and directed messages between a central system and the various counter parties. As such, communications with each involved party to a transaction are verified. *Hartheimer* discloses a system that enables a transaction between a single buyer or seller and a market maker. As such, only communications between the two parties are verified. Taking each as a whole, there is no suggestion to combine the teachings of *Hartheimer* for a one-to-one trade system with the multi-party trade system of *Silverman*.

Further, *Silverman* relies on various acknowledgement and confirmation messages between the central system and the counter parties to ensure completion of a transaction. In contrast, *Hartheimer* relies on a two-stage logging process at bank nodes to ensure completion of a transaction. Taking each as a whole, there is no suggestion to combine the two-stage logging process of *Hartheimer* with the message-acknowledgement system of *Silverman* to ensure

completion of transactions. Moreover, the multi-node system of *Hartheimer* is redundant to, if not incongruous with, the central system of *Silverman*, which strongly dissuades such a combination.

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If the teachings of *Hartheimer* are nonetheless combined with the system of *Silverman*, the combination would not disclose, teach or suggest the claimed invention. The combination would yield a system in which a time period is measured between a workstation submitting an order message ('order' of *Hartheimer*, see col. 6, lines 63-68 and col. 7, lines 29-34; bid or offer of *Silverman* – see col. 17, lines 41-51, 120 of Fig. 6) and receiving a response to the order (either 'order confirmed' or 'quote interrupted' of *Hartheimer*; acknowledgement of *Silverman*, 122 of Fig. 6). In other words, the time period measured in a combined system for ensuring completion of a transaction is from placement of an order (e.g. bid or offer) by a requestor workstation until a response is received, rather than timing follow-up acknowledgement/confirmation messages. There is no teaching or suggestion in either *Hartheimer* or *Silverman* for measuring a time period between messages other than an order-sent/order-received messages, nor is there a teaching or suggestion for timing of messages at a workstation other than a requestor workstation that places the order. In fact, *Hartheimer* implicitly teaches away from timing other messages at the workstation to ensure completion of a transaction, and instead teaches communication between bank node processors to resolve any 'doubtful' transactions. (col. 3, line 60 through col. 4, line 5). Thus, the combination of *Silverman* and *Hartheimer* does not teach or suggest the timing of intervals between

acknowledgement of a transaction and confirmation that all parties have acknowledged the transaction.

In contrast, the present invention recites, among other features, systems and methods for confirmation of transactions through acknowledgement messages to/from involved parties and subsequent confirmation messages to involved parties once the central system has received applicable acknowledgement messages. Among other features, the independent claims of the present invention recite confirmation timers or timing methods that measure intervals related to the acknowledgement and confirmation messages to confirm completion of a transaction.

For example, as amended, independent claim 43 of the present invention recites, among other features, the following:

> [a] system for exchanging signals relating to at least a bid and an offer, the system comprising ... a second workstation ... said second workstation having a confirmation timer for measuring a time elapsed from reception of said second signal or from sending said acknowledgement until said second workstation receives a fourth signal, said fourth signal comprising a confirmed trade signal ....

Independent claim 54 recites, among other features, the following:

> [a] method for acknowledging the receipt of signals ... comprising the steps of ... determining when said indication that the network acknowledges the acknowledgement from said second workstation has not been received during an interval.

As amended, Independent claim 59 recites, among other features, the following:

> A computer-readable medium having computer-executable instructions for performing steps comprising ... receiving an alarm from one of said workstations notifying said networked processor that said indication that the networked processor received the acknowledgement was not received by one of said workstations during an interval.

As amended, independent claim 62 recites, among other features, the following:

> A first workstation ... comprising ... a confirmation timer for measuring time elapsed from said workstation receiving a match notification signal or sending a

match acknowledgement signal until said workstation receives a confirmed trade signal ....

Independent claim 63 recites, among other features, the following:

A computer-readable medium having computer-executable instructions for performing steps ... comprising ... measuring the time elapsed from reception of said first acknowledgement to reception of a second acknowledgement ....

Independent claim 106 recites, among other features, the following:

A method for acknowledging the receipt signals relating to at least bids or offers in an electronic trading system ... comprising the steps of ... measuring an elapsed confirmation time from receiving the second transaction message from the network at the second workstation until the second work station receives from the network the indication that the network received the acknowledgement of the transaction from the second workstation ....

Independent claims, 67, 68, 92, 93, 100, 103 and 117, as amended, recite features similar to claim 43. Independent claims 79 and 104 recite features similar to claim 54. Independent claims 84 and 110 recite features similar to claim 59. Independent claim 87 recites features similar to claim 62. Independent claim 88 and 113 recite features similar to claim 63.

Accordingly, for at least the reasons discussed above, Applicants respectfully submit that independent claims 43, 54, 59, 62, 63, 67, 68, 79, 84, 87, 88, 92, 93, 100, 103, 104, 106, 110, 113, 117 are patentable over the combination of *Silverman* and *Hartheimer*. Further, dependent claims 44-53, 55-58, 60-61, 64-66, 69-78, 80-83, 85, 86, 89-91, 94-99, 101, 107-108, 111, 112, 114-116, 118 and 119, which each ultimately depend from a respective one of the independent claims listed above, are patentable over the combination of *Silverman* and *Hartheimer* and further in view of the novel features recited therein.

In view of the above, it is respectfully submitted that the application is in condition for allowance. Reconsideration and prompt allowance are respectfully requested. If the Examiner feels that a telephone interview would be helpful in facilitating prosecution of the case, the Examiner is respectfully requested to contact the undersigned attorney of record to discuss the application.

Respectfully submitted,

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MARKED-UP VERSION OF AMENDMENTS

IN THE CLAIMS

Claim 120 has been cancelled.

Claims 43, 44, 56, 57, 59, 62, 67-69, 82, 84, 87, 92, 93, 103, 107, 110, 112 and 117 have been amended as follows:

43.   (Four Times Amended)   A system for exchanging signals relating to at least a bid and an offer, the system comprising:

a network connected to workstations;

a first workstation of said workstations, said first workstation sending a first signal to said network signaling a bid in response to an initial offer; and

a second workstation of said workstations, said second workstation receiving a second signal indicative of said bid from said network and ~~for~~ sending an acknowledgement of said received bid to said network, said second workstation having a confirmation timer for measuring ~~the~~ a time elapsed from reception of said second signal <u>or from sending said acknowledgement</u> until said second workstation receives a ~~specific~~ fourth signal<u>, said fourth signal comprising a confirmed trade signal</u>;

said network sending at least a third signal to said first workstation and at least said fourth signal to said second workstation, said at least third and said at least fourth signals indicating acknowledgement of said acknowledgement from said second workstation,

wherein at least one of said network, said first workstation, and said second workstation determines when one of said acknowledgements has not been received during an interval.

44. (Amended) The system according to claim 43, wherein said at least third signal includes a confirmed trade signal~~first purchase confirmation signal and said at least fourth signal includes a second purchase confirmation signal~~.

56. (Four Times Amended) The method according to claim 54, wherein the step of determining when said indication that the network acknowledges the acknowledgement from said second workstation has not been received during an interval comprises the steps of:

measuring an elapsed confirmation time from receiving the offer from the network at the second workstation or from sending from the second workstation to said network an acknowledgement of the receipt of the offer until the second workstation receives from the network the indication that the network received the acknowledgement of the transaction from the second workstation; and

storing an indication that the transaction is unconfirmed upon the measured elapsed confirmation time exceeding a predetermined confirmation timeout period.

57. (Thrice Amended) The method according to claim 56, further comprising the step of:

displaying at the second workstation that a late confirmation was received~~,~~ after the predetermined confirmation timeout period has expired~~, at~~ in response to the second workstation receiving after the timeout period the indication that the network received the acknowledgement of the receipt of said bid sent from the second workstation.

59. (Five Times Amended) A computer-readable medium having computer-executable instructions for performing steps comprising:

receiving at a networked processor an offer from a first workstation in response to an initial bid;

sending the offer from the networked processor to a second workstation;

receiving at the networked processor from the second workstation an acknowledgement of a transaction based on the offer ~~from the second workstation at the networked processor~~;

sending from the networked processor to the first and second workstations an indication that the networked processor received the acknowledgement of the transaction; and

receiving an alarm from one of said workstations notifying said networked processor that said indication that the networked processor received the acknowledgement was not received by one of said workstations during an interval.

62.   (Five Times Amended)   A first workstation participating in the exchange of signals, the signals including at least a bid and an offer, the first workstation connected to a network, said network connected to at least a second workstation, said first workstation comprising:

a receiver for receiving an initial offer;

a processor for processing said initial offer;

a confirmation timer for measuring time elapsed from said workstation receiving a match notification signal or sending a match acknowledgement ~~one of specific~~ signals until said workstation receives a ~~corresponding different one of specific signals~~ confirmed trade signal; and

an output for outputting a first signal to said network, said first signal signaling a bid in response to said initial offer;

said receiver also receiving a match notification ~~second~~ signal wherein said ~~second~~ match notification signal indicates the acknowledgement of a receipt of said first signal by said second workstation, and ~~a third~~ an unconfirmed trade signal when said acknowledgement was not received during an interval.

67.   (Four Times Amended)   A system for exchanging signals relating to at least a bid or an offer, the system comprising:

a network connected to workstations;

a first workstation of said workstations, said first workstation sending a first signal to said network signaling a bid in response to an initial offer; and

a second workstation of said workstations, said second workstation receiving a second signal indicative of said bid transmitted from said first workstation in response to said initial offer ~~from~~ over said network, said second workstation sending an acknowledgement of said bid received from said first workstation over said network, said second workstation having a confirmation timer for measuring ~~the~~ a time elapsed from reception of said second signal <u>or from sending said acknowledgement</u> until said second workstation receives a ~~specific~~ fourth signal<u>,</u> <u>said fourth signal comprising a confirmed trade signal</u>;

said network sending at least a third signal to said first workstation and at least said fourth signal to said second workstation, said at least third and said at least fourth signals indicating acknowledgement of said acknowledgement from said second workstation;

wherein at least one of said network, said first work station, and said second work station determines when at least one of said acknowledgements has not been received during an interval.

68.   (Five Times Amended)   A system for exchanging signals relating to at least a bid and an offer, the system comprising:

a network connected to workstations;

a first workstation of said workstations, said first workstation sending a first signal to said network signaling an offer in response to an initial bid; and

a second workstation of said workstations, said second workstation receiving a second

signal indicative of said offer from said network and for sending an acknowledgement of said received offer to said network, said second workstation having a confirmation timer for measuring ~~the~~ a time elapsed from reception of said second signal or from sending said acknowledgement until said second workstation receives a ~~specific~~ fourth signal, said fourth signal comprising a confirmed trade signal;

said network sending at least a third signal to said first workstation and at least said fourth signal to said second workstation, said at least third and said at least fourth signals indicating acknowledgement of said acknowledgement from said second workstation;

wherein at least one of said network, said first workstation, and said second workstation determines when one of said acknowledgements has not been received during an interval.

69.   (Amended)   The system according to claim 68, wherein said at least third signal includes a ~~first purchase confirmation signal and said at least fourth signal includes a second purchase confirmation signal~~ confirmed trade signal.

82.   (Twice Amended)   The method according to claim 81, further comprising the step of:

displaying at the second workstation that a late confirmation was received~~,~~ after the predetermined confirmation timeout period has expired~~, at~~ in response to the second workstation receiving after the timeout period the indication that the network received the acknowledgement of the receipt of said offer sent from the second workstation.

84.   (Thrice Amended)   A computer-readable medium having computer-executable instructions for performing steps comprising:

receiving at a networked processor a bid from a first workstation in response to an initial offer;

sending the bid from the networked processor to a second workstation;

receiving <u>at the networked processor from the second workstation</u> an acknowledgement of a transaction based on the bid ~~from the second workstation at the networked processor~~;

sending from the networked processor to the first and second workstations an indication that the networked processor received the acknowledgement of the transaction; and

receiving an alarm from one of said workstations notifying said network that said indication that the networked processor received the acknowledgement was not received by said one of said workstations during an interval.

87.   (Thrice Amended)   A workstation participating in the exchange of signals, the signals including at least a bid and an offer, the workstation connected to a network, said network connected to at least a second workstation, said workstation comprising:

a receiver for receiving an initial bid;

a processor for processing said initial bid;

a confirmation timer for measuring time elapsed from said workstation receiving <u>a match notification signal</u> or sending <u>a match acknowledgement</u> ~~one of specific~~ signals until said workstation receives a ~~corresponding different one of specific signals~~<u>confirmed trade signal</u>; and

an output for outputting a first signal to said network, said first signal signaling an offer in response to said initial bid,

said receiver also receiving a ~~second~~<u>match notification</u> signal wherein said ~~second~~<u>match notification</u> signal indicates the acknowledgement of a receipt of said first signal by said second workstation and ~~a third~~<u>an unconfirmed trade</u> signal when said acknowledgement was not received during an interval.

92. (Thrice Amended)   A system for exchanging signals relating to at least a bid or an offer, the system comprising:

a network connected to workstations;

a first workstation of said workstations, said first workstation sending a first signal to said network signaling an offer in response to an initial bid; and

a second workstation of said workstations, said second workstation receiving a second signal indicative of said offer transmitted from said first workstation in response to said initial bid from over said network, said second workstation sending an acknowledgement of said offer received from said first workstation over said network, said second workstation having a confirmation timer for measuring the a time elapsed from reception of said second signal or from sending said acknowledgement until said second workstation receives a specific fourth signal, said fourth signal comprising a confirmed trade signal;

said network sending at least a third signal to said first workstation and at least said fourth signal to said second workstation, said at least third and said at least fourth signals indicating acknowledgement of said acknowledgement from said second workstation,

wherein at least one of said network, said first work station, and said second work station determines when at least one of said acknowledgements has not been received during an interval.

93.   (Thrice Amended)   A system for exchanging signals relating to at least a bid or an offer, the system comprising:

a network connected to workstations;

a first workstation of said workstations, said first workstation sending a second transaction message to said network in response to a first transaction message; and

a second workstation of said workstations, said second workstation receiving a third

transaction message from said network indicative of said second transaction message and ~~for~~

sending an acknowledgement of said received third transaction message to said network, said

second workstation having a confirmation timer for measuring ~~the~~ a time elapsed from reception

of said third message <u>or from sending said acknowledgement</u> until said second workstation

receives a ~~specific~~ fifth message<u>, said fifth signal comprising a confirmed trade signal</u>;

said network sending at least a fourth transaction message to said first workstation and at

least said fifth transaction message to said second workstation, said at least fourth and said at

least fifth transaction messages indicating acknowledgement of said acknowledgement from said

second workstation;

wherein prior to the transmission of said second transaction message by said first

workstation, said second workstation transmits said first transaction message to said network.

103.   (Thrice Amended)   A system for exchanging signals relating to at least a bid or

an offer, the system comprising:

a network connected to workstations;

a first workstation of said workstations, said first workstation sending a second

transaction message to said network in response to a first transaction message;

a second workstation of said workstations, said second workstation receiving a third

transaction message from said network indicative of said second transaction message and for

sending an acknowledgement of said received third transaction message to said network, said

second workstation having a confirmation timer for measuring the time elapsed from reception

of said third transaction message <u>or from sending said acknowledgement of said received third</u>

<u>transaction message</u> until said second workstation receives a ~~specific~~ fifth transaction message<u>,</u>

<u>said fifth transaction message comprising a confirmed trade signal</u>;

said network sending at least a fourth transaction message to said first workstation and at least said fifth transaction message to said second workstation, said at least fourth and said at least fifth transaction messages indicating acknowledgement of said acknowledgement from said second workstation;

wherein said network further comprises:

a computer for matching at least bids or offers from said workstations in accordance with predetermined matching criteria.

an acknowledgement timer for measuring the time elapsed from reception of said second transaction message by said network from said first workstation until reception of said acknowledgement by said network from said second workstation; and

a storage unit for storing an indication that a purchase was not acknowledged upon the elapsed time measured by said acknowledgement timer exceeding a predetermined acknowledgement timeout period.

107.   (Amended)   The method according to claim 106, further comprising the step of: displaying at the second workstation that a late confirmation was received, after the predetermined confirmation timeout period has expired, at in response to the second workstation receiving after the timeout period the indication that the network received the acknowledgement of the receipt of said first transaction message sent from the second workstation.

110.   (Thrice Amended)   A computer-readable medium having computer-executable instructions for performing steps comprising:

receiving at a networked processor a first transaction message from a second workstation;

sending an acknowledgement of the first transaction message from the networked processor to the second workstation;

receiving at the networked processor a second transaction message from a first workstation in response to the first transaction message;

sending the second transaction message from the networked processor to the second workstation;

receiving <u>at the networked processor from the second workstation</u> an acknowledgement of a transaction based on the second transaction message ~~from the second workstation at the networked processor~~;

sending from the networked processor to the first and second workstations an indication that the networked processor received the acknowledgement of the transaction; and

receiving an alarm from one of said workstations notifying said networked processor that said indication that the networked processor received the acknowledgement was not received by one of said workstations during an interval.

112. (Thrice Amended)   A <u>first</u> workstation participating in the exchange of signals, the signals including at least a bid or an offer, the <u>first</u> workstation connected to a network, said network connected to at least a second workstation, said <u>first</u> workstation comprising:

a receiver for receiving a first transaction message;

a processor for processing said first transaction message;

a confirmation timer for measuring time elapsed from said workstation receiving <u>a match notification message</u> or sending <u>a match acknowledgement message</u>~~one of specific transaction messages~~ until said workstation receives a ~~corresponding different one of specific transaction messages~~<u>confirmed trade message</u>; and

an output for outputting a first signal to said network, said first signal signaling a second transaction message in response to said first transaction message;

said receiver also receiving a <u>match notification</u><s>third transaction</s> message wherein said <s>third transaction</s> <u>match notification</u> message indicates the acknowledgement of a receipt of said second transaction message by said second workstation and said receiver receiving an alert from said network when said network has not received the acknowledgement of said second transaction message after a predetermined interval.

117.   (Thrice Amended)   A system for exchanging signals relating to at least a bid or an offer, the system comprising:

a network connected to workstations;

a first workstation of said workstations, said first workstation sending a second transaction message to said network signaling a response to a first transaction message; and

a second workstation of said workstations, said second workstation receiving a second signal indicative of said second transaction message transmitted from said first workstation in response to said first transaction message from over said network, said second workstation sending an acknowledgement of said second transaction message received from said first workstation over said network, said second workstation having a confirmation timer for measuring the time elapsed from reception of said second transaction message <u>or sending said acknowledgement of said second transaction message</u> until said second workstation receives a <s>pre-determined</s> fourth transaction message, <u>said fourth transaction message comprising a confirmed trade signal</u>;

said network sending at least a third transaction message to said first workstation and at least said fourth transaction message to said second workstation, said at least third transaction message and said at least fourth transaction message indicating acknowledgement of said

acknowledgement from said second workstation said network providing an alert when said

acknowledgement has not been received after a

predetermined interval.